UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
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CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:
SR-6J

March 25, 1997
OMC097004

Trisha Sutton
OMC
100 Sea-Horse Drive
Waukegan, Illinois 60085-2195

RE: Comments on the Revised Operations & Maintenance Plan

Dear Ms. Sutton:

Thank you for your transmittal of the document entitled *Operations and Maintenance Plan, Waukegan Harbor Remedial Action, Waukegan Harbor Superfund Site,* dated January 1997. The United States Environmental Protection Agency (U.S. EPA) has completed its review of this document, with the exception of the Health and Safety Plan (HASP) and Quality Assurance Project Plan (QAPP). U.S. EPA also solicited comments from the Illinois Environmental Protection Agency (IEPA) and the U.S. Army Corps of Engineers. With the exception of the comments on the QAPP (currently under review) and HASP (not yet submitted), the results of these reviews are presented below.

Section I, Introduction, Page 2, Last Paragraph:

This paragraph states that PNA contaminants found during the construction of the new slip relate to another site, the Waukegan Manufactured Gas and Coke Plant Site (WCP), which is being investigated and remediated separately. The U.S. EPA and IEPA recognize that this is OMC's position with regard to the temporary waste pile. However, final resolution for this issue has not occurred due to a number of outstanding issues (OMC's responsibility as generator of the pile, the Feasibility Study for the WCP site has not been completed, etc.). Because these issues remain open, conclusions regarding what site these wastes relate to and who will be ultimately responsible for the appropriate future final response action are premature.

Page 3, Second Paragraph:

This paragraph presents somewhat broader language than the referenced Section V.D.9 of the Consent Decree. The Consent Decree states that "at any time after 5 years following the commencement of operation and maintenance activities for any containment cell, OMC or the Trustee may request that U.S. EPA (with the concurrence of IEPA) modify or terminate the

groundwater extraction, treatment, and discharge activities required by Section 4.0 of the Operation and Maintenance Plan for that cell." For the sake of clarity, this paragraph should be revised to use the specific language contained in the Consent Decree.

Section 2, Maintenance and Inspection of Final Cover, Page 4, Paragraph 3:

The current inspection schedule required that "the vegetative cover will be inspected, every three months for the first two years after completion of closure, semi-annually for the next two years and each spring during the remainder of the post-closure care period." Based on this definition and the proposed date of completion for the cells in the draft Construction Complete Report, we are not in the annual inspection for post-closure care period yet.

Section 3.0 Groundwater Monitoring, Page 5, Paragraph 1:

The appropriateness of using 19.0 parts per billion as a background for the West Containment Cell is questionable. Especially in light of sampling conducted from the second quarter of 1993 to the present (See related comment in Section 3.2).

Section 3.1 Groundwater Elevations, Page 5, Paragraph 2:

Groundwater elevations should be routinely monitored to assure that an inward gradient is maintained. To the extent that quarterly samples clearly indicate that this gradient is met, quarterly sampling is appropriate. However, should the water levels indicate a possibility that the gradient requirement may not have been met, sampling will be required as frequently as necessary to clearly document the inward gradient.

Paragraph 3:

This paragraph states that "The hydraulic gradient between a containment cell and the groundwater outside the slurry wall is represented by the overall difference in water level across the width of the cell." This language should be modified to state that the measurement of hydraulic gradient is a direct comparison of water level measurements from the paired piezometer/ground water wells inside versus outside the containment cell. This comparative measurement should clearly illustrate the differential in water levels across the soil-bentonite wall assuring the required inward hydraulic gradient is maintained.

Section 3.2, Groundwater Sampling, Analysis, and Notifications:

To avoid any confusion, it should be noted that total PCBs are used for comparison to triggers.

On page 6, last paragraph, under subsection 1, Hazardous Constituents of the Consent Decree O&M Plan, there is a requirement that groundwater monitoring be conducted for chlorinated organics, per 40 CFR 761.75 (Toxic Substance Control Act). This requirement does not appear

in the proposed revised O&M Plan.

Detection Monitoring, Page 7, Bullet 1:

Data that meets the resample requirements should be footnoted even if they are not verified. This notification can aid in identifying and monitoring any potential trends.

Detection Monitoring, Page 7, Bullet 2:

Bullet 2 states that an increase of 1 ppb or more for three consecutive sampling events will require compliance monitoring. The following paragraph states that receipt of the forth sequential validated sampling result that shows a continued increase in PCB concentrations of 1 ppb or more per sampling period will result in compliance monitoring. It is confusing whether it is 3 or 4 increases and whether there is a significance between "sampling events" and "sampling periods". The original O&M plan was very straightforward in this regard by stating that, "(I)f the detection monitoring results indicate that the PCB level is consistently above the background level by less than 5 ppb and shows a continued increase at a rate of 1 ppb/quarter or more, for three consecutive quarters, the groundwater monitoring program will move into compliance monitoring...".

Page 7, First Paragraph Beneath the Bullets:

Depending upon on how the proposed language is read in this paragraph, it may be interpreted to say that a "change" of 10 ppb triggers notification, or it could also be read to say that 10 ppb above background triggers notification. The significance here is that if the latter definition is used, 19.0 ppb as background sample for W-10 would mean that greater than 29 ppb PCBs would be required for the trigger. A total of 29 ppb PCBs is almost 50% higher than the conservative maximum concentration assumed to be extracted from inside the cells (20 ppb is identified in Appendix D as a conservative maximum influent concentration). For this reason, 10 ppb above background is an inappropriate measure. However, if the background is recalculated based on a mutually agreeable period of past sampling, 10 ppb above background could be an appropriate measure. If the background is not recalculated for W-10, the trigger should remain a 10 ppb increase in detection monitoring as described in the current O&M Plan.

Section 4.0 Groundwater Extraction, Treatment and Discharge, Page 10, Sentence 1:

The first sentence should be revised to state that groundwater will be extracted from each containment cell to maintain an inward hydraulic gradient across the soil-bentonite wall, rather than just lowering the water level inside the cell. Further, it is stated that groundwater will be extracted from the recovery wells in each containment cell **as needed...** to lower the water level inside the slurry walls (emphasis added). The concern here is if a pump malfunctions or some other unforseen accident occurs, will there be enough of a safety factor so that the inward gradient is not threatened? For this reason, the minimum difference in the elevation of the water

inside the cell compared to outside the cell that triggers pumping should be presented.

Paragraph 3:

These are new treatment facilities and the alarms, automatic shut-off controls, etc., need to be demonstrated to U.S. EPA before beginning the continuous operation of the new water treatment facilities. We need to schedule a time for the U.S. EPA/Corps of Engineers to observe the operation and testing of this equipment.

Home telephone numbers need to be provided to the security guard personnel for situations that may arise on weekends or holidays. An alternate should also be identified in the event the designated person is unavailable.

Section 4.1 Treatment System Operation, Page 10:

This section appears to imply that continuous pumping will occur. If so, it should be clearly stated, if not, the exact trigger for pumping should be presented.

Section 4.2 Treatment System Sampling Frequency, Page 11, Bullet 1:

The initial effluent and lead carbon sample should be tested the first day of restarting contaminated water through the system after a shutdown of 30 days or more and the system shut down until the results are evaluated. In other words, this monitoring should be conducted as soon as possible to ensure the system is operating properly, but not so soon as to sample non-contaminated water that may have been used to test the system for leaks.

If the entire system must be shut down due to the results of the lead carbon or system effluent monitoring, another set of water samples should be take from the new lead carbon and system effluent as the system is re-started to ensure the system is performing properly.

Bullet 3:

The second sentence of this bullet refers to less frequent sampling based on effluent samples and influent samples that are less than 10 ppb, however, the schedule for influent sampling is not immediately clear. What is the influent sampling schedule and where is it explicitly stated?

Page 11, Paragraph 3, Number 2:

The current O&M plan requires that the cartridge filter element be replaced when verified concentrations in effluent exceeded 1 ppb. It appears in the Appendix C Operations Manual that the Rosedale bag filter can be independently evaluated for replacement based on pressure increases. If this is untrue, please modify the replacement trigger accordingly.

Section 4.3 Recovery Well and Water Treatment System Maintenance, Page 12, Paragraph 3:

This paragraph states that "(D)uring operation, the treatment system will be inspected periodically..." How often is periodically?

Paragraph 4:

The O&M Plan should explain how the proposed testing procedure for TRC meets the substantive requirements of 40 CFR 136.

Page 12, Last Paragraph:

The first sentence states that water from the containment cell will be used to hydraulically test the system after it has been shut down. Although water from the containment cell was recently used for this purpose, it was the agencies' understanding that this request was an exception and not a proposed O&M change. The obvious concern is that test water be non-contaminated in the event there is a system leak. Because this is a new system, and we have had leaks (recognizing the leak was small and secondary containment easily contained the leak), we are currently uncomfortable with using contaminated cell water for leak testing. However, due to the logistical problems in obtaining sufficient quantities of non-contaminated water in a timely manner to conduct these tests, we are not precluding any further discussion of this issue. Specifically, after sufficient O&M experience with the new system has been achieved, we can revisit this issue. However, be advised that more comprehensive start-up/compliance sampling will be required for the agencies to consider this request.

Table 2

According to Table 8 of the Quarterly Report ending 12/21/94, the first round of sampling on the East Containment Cell was the 2nd quarter of 1993, as opposed to the 3rd quarter of 1992. Also it appears that the background average for W-10 and W-12 should be 18.6 and 1.5, respectively.

If you have questions regarding these comments, or would like to discuss them in greater detail, please do not hesitate to contact me at (312) 353-6425.

Sincerely,

Michael E. Bellot
EPA Remedial Project Manager

cc: Sean Mulroney, EPA
Steve Wiley, USDOJ
Jerry Willman, IEPA
Jim McMoran, USCOE
Roger Crawford, OMC